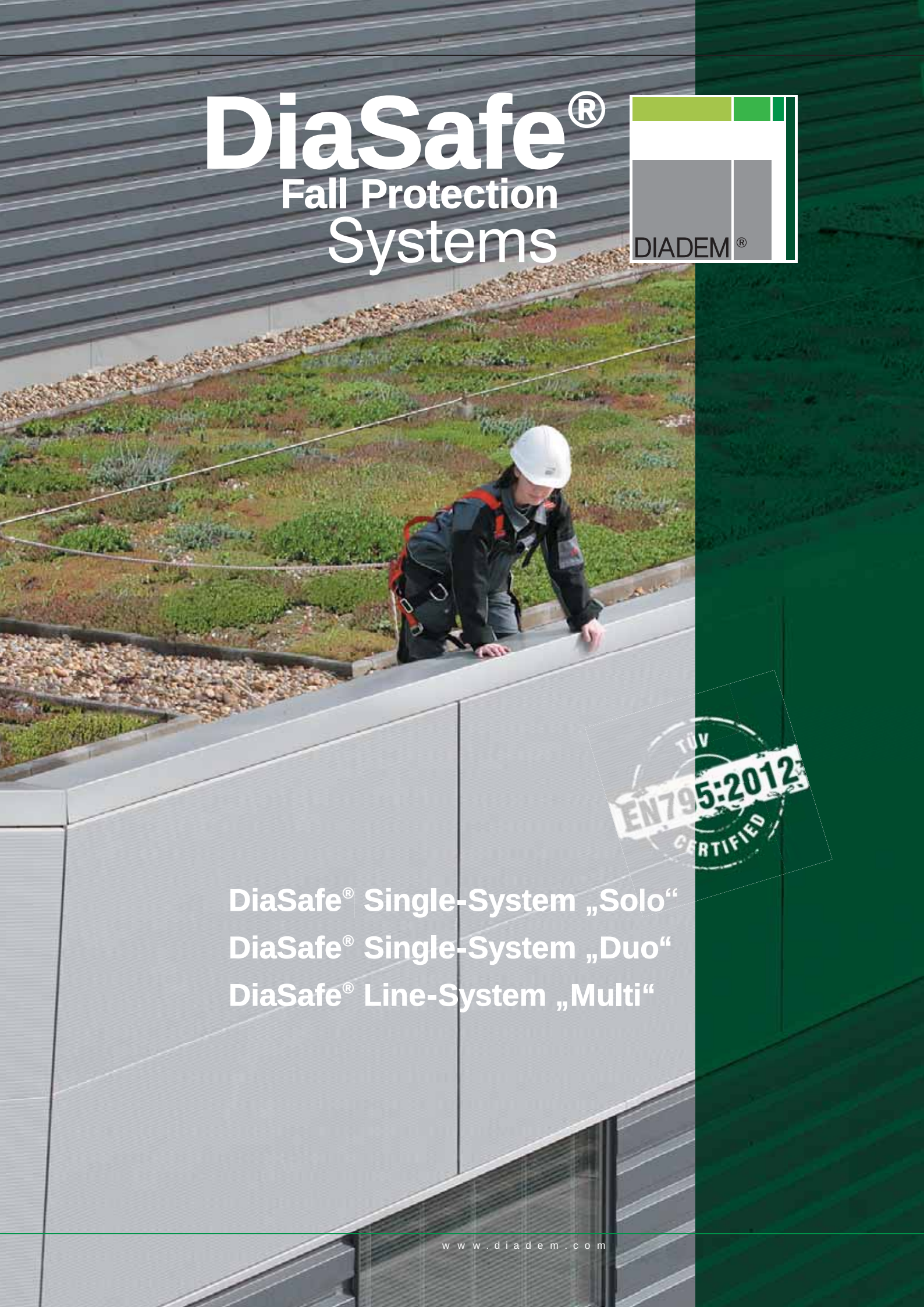
DiaSafe®
Fall Protection Systems



DiaSafe® Single-System „Solo“

DiaSafe® Single-System „Duo“

DiaSafe® Line-System „Multi“

Safety on the roof

DiaSafe®

Fall protection Systems

Product description

The DiaSafe® Systems are anchoring devices which ensure the safety of staff working at heights. They have been tested by TÜV, Europe's leading safety validation organisation. The systems conform to the most recent standard, EN 795:2012, when used with personal protection equipment that meets standards EN 355 and EN 365. The DiaSafe® Systems may be used both as fall arrest or fall restraint systems. The systems meet all work safety standards and requirements without affecting the roof in any way.

The DiaSafe® Systems can be installed on green, gritted, or paved roofs, with up to a 5° incline. The key factor is to ensure a minimum ballast weight of 80 kg/m² for the standard 3m×3m size fall arrest mat. The waterproofing, roof insulation and roof structure remain intact.

Legal requirements

Anyone working at height on a roof needs to be protected. This protection is the responsibility of the architect and the owner of the premises. All DiaSafe® systems comply with the latest EU standards and requirements valid as of 31st January 2013. The systems are certified by one of the most widely-respected notified bodies, TÜV Austria.

In order to ensure the safety of people working at heights, hundreds of fall tests were conducted in the product development and testing centre under the supervision of an independent testing organisation.

Any installation plan must be designed or approved of in writing by the manufacturer. The standards listed below need to be taken into consideration regarding anchor points and personal safety devices attached to them.

CE
0408

EN 361:2002	*Personal protective equipment against falls – full body harnesses*
EN 362:1992	*Personal protective equipment against falls – connectors*
EN 363:2008	*Personal protective equipment against falls – personal fall protection systems*
EN 364:1992	*Personal protective equipment against falls – test methods*
EN 795:2012	*Personal protective equipment against falls – anchor devices*
89/686/EWG	*Directives – harmonised regulation 18-2008. (XII.3) SzMM*

TÜV AUSTRIA

Zertifikat - Certificate

Nr.: TÜV-A-MHF/FT-13/FT13-003

Hersteller: APP Kft.
Manufacturer: Fehérvári út 75
H-9028 Győr

APP Kft.
Fehérvári út 75
H-9028 Győr

Schutz gegen Absturz – Anschlageinrichtung EN 795:2012 Typ C
Protection against falls from a height – Anchor devices Type C

DiaSafe System "Line-System Multi"

ÖNORM EN 795:2012 (ident EN 795:2012
ÖNORM EN 365:2004 (ident EN 365:2004)

Anschlageinrichtung Typ C zur Sicherung von 1 Person in jedem zweiten Feld
Anchor devices Type C for one person each second span

siehe Anhang
see annex

bestätigt die TÜV AUSTRIA SERVICES GMBH als benannte Stelle (ID-Nr. 0408), dass das ngeführte Produkt den grundlegenden Sicherheits-Anforderungen der Richtlinie entspricht. ge dieses Zertifikates ist das zur Prüfung und Zertifizierung vorgelegte Prüfmuster und die che Dokumentation.

TÜV AUSTRIA SERVICES GMBH certifies as notified body (ID No. 0408) that the above mentioned t meets the essential safety requirements of the Directive. The certificate is based on the test en and the technical documentation subjected to the test and the certification.

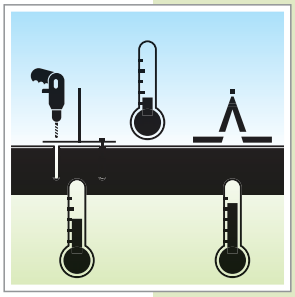
Ing. Karl Lueger
Prüfstelle
examining department

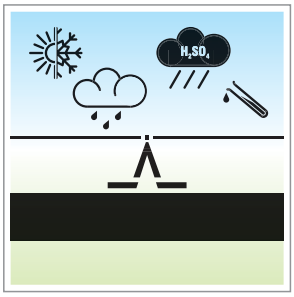
Dipl.-Ing. R. Schleifenbaher
Zertifizierungsstelle
certifying department

28.02.2013
Gültig bis
valid till

Exceeds legal safety standards
The systems were tested to levels beyond those set by the standards to provide an additional margin of safety.

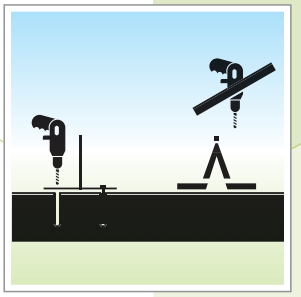
No thermal bridges
In contrast to traditional fall arrest systems, no energy loss is caused.

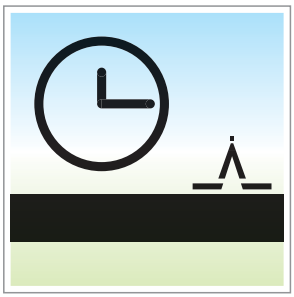




Industrial/coastal regions
The materials used in the DiaSafe® systems are resistant to acid rain in industrial areas and high salt exposure in coastal regions.

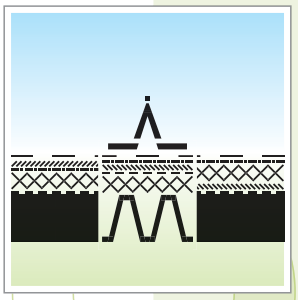
Intact waterproofing layer
These ballasted systems do not require any mechanical attachment to the roof structure, so the waterproofing and insulation remains intact.

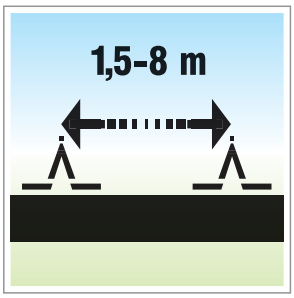




Fast and easy installation
The system consists of a minimal number of components, thereby reducing the time and technical skill needed for installation.

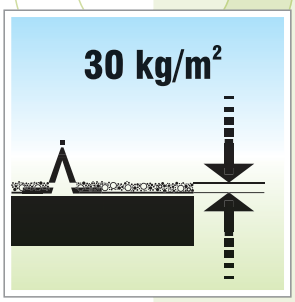
Suitable for most types of flat roof
The DiaSafe® systems can be installed on warm or inverted roofs, concrete or wood structure, PVC or bituminous waterproofing membrane.

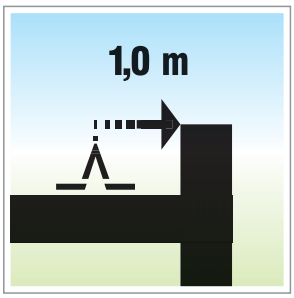




Flexible planning
Depending on the size, shape and height of the roof, the posts can be positioned from 1,5m to 8m apart according to the plan.

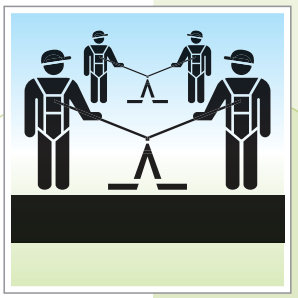
Suitable for light roofs
With the additional mat providing a larger area, as little as 30 kg/m² of ballast needs to be used.





Larger usable roof area
The distance between the parapet wall and the DiaSafe® posts can be reduced to one metre. This provides additional space for other uses such as the installation of solar panels or garden areas.

Multi-user systems
Every DiaSafe® system is designed so that it can be used by more than one person at the same time.



Fall restraint function
In fall restraint mode, the protected worker attached to the system cannot reach the very edge of the roof, therefore avoiding the possibility of a fall. The lanyard length is fixed.

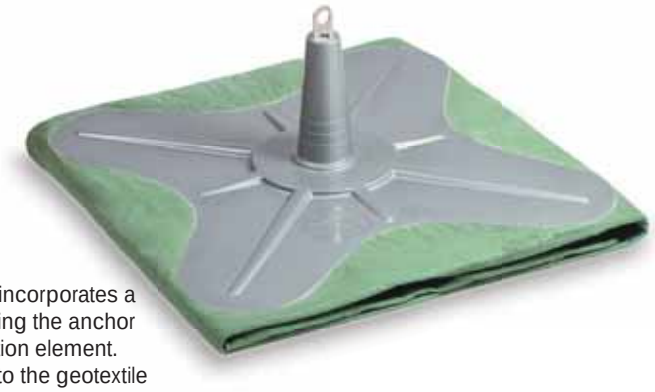
Fall arrest function
Used as a fall arrest system, the worker has maximum freedom of movement up to the edge of the roof. The lanyard length may be adjusted by the user. If a fall occurs, the system dampens the arrest and holds the person securely.

Safety on the roof

DiaSafe® Single-System • Solo

■ Application

Learning to use the Single System is very easy. The anchor point is the circular opening on the top of the stainless steel post and the user attaches the carabiner of the personal safety rope system directly to this post. Care must be taken during use to ensure that the rope is always taut, as detailed in the user manual.



■ System Components

The DiaSafe® Solo/Duo system incorporates a damping plate with a cone housing the anchor post which has a built-in absorption element. The damping plate is laminated to the geotextile damping mat.

■ Min. ballasting weight

Solo: 80 kg/m² *

Duo: 200 kg/m² *

* If additional geotextile mat is used: from 30 kg/m²

* Weight figures apply to the ballast to be placed on the standard laminated damping mat. However, the ballasting weight may be reduced to 30 kg/m², if an additional mat is used. Alternatively the mat size can be reduced in area, if a considerably larger ballasting weight is used. In every case the producer's detailed instructions and the number of people using the systems must be taken into consideration.

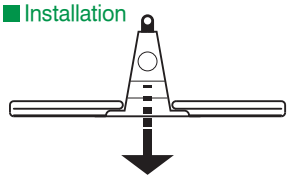
□ Fall dampening

There is a built-in absorption element in the post that dissipates part of the energy in the event of a fall. This protects the person from serious injuries that may occur in the event of a sudden arrest.

MAX

Solo

■ Installation



☐ 1.
After installing the filter or protection geotextile layer, place the system on top in the exact position set out in the producer's plan.

☐ 2.
Unfold the damping mat without creases (standard unfolded size: 3×3m).

☐ 3.
Spread the ballasting weight evenly, make sure the weight is sufficient for the surface area of the damping mat.

☐ 4.
Finally, the certified installer completes and attaches the control label (inspection tag) as well as the circular validation sticker onto the cone.

☐ 5.
Register the system at diasafe.diadem.com by using the serial number."

☐ Omnidirectional use

The system can be used horizontally in any direction around the anchor point.

MAX
Duo

DiaSafe® Single-System • Duo

Safety on the roof

DIADEM®

Safety on the roof

DiaSafe® Line-System • Multi

■ Application

When using DiaSafe® Line-System „Multi", the carabiner of the lanyard is always connected to the steel rope – never directly to the post – in order to ensure freedom of movement for the users. The carabiner can move freely between two posts. This system can protect the safety of several users - one person may be attached to every second section simultaneously (between two users one section must be left unused).

■ System components

1

1 DiaSafe® Line anchoring post
Stainless steel post from an angled, circular sectioned base. Standard height: 30cm (Custom orders up to 140cm)

2 Amoeba-shaped damping plate
Incorporates glass fibre reinforced cone and laminated damping mat. The structurally engineered damping plate with the ballast weight is key to the operation of the whole system.

2

3

6

4

5

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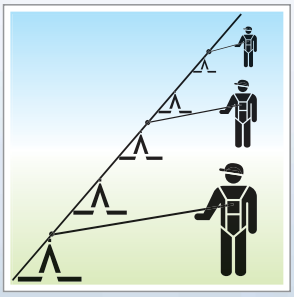


■ Min. ballasting weight

Line-System: 80 kg/m² *
With additional geotextile mat: from 30 kg/m² *

□ Multi-user systems

Every DiaSafe® system is designed so that it can be used by more than one person at the same time.

3 Fixing head
The stainless steel fixing head is attached to the top of the post using a bayonet construction to securely fix the anchoring cable to the post.

4 Clamp ring
Made of stainless steel, it holds the fixing head securely in its place during installation and use (inside Ø : 28,5 mm).

5 Square ring
Connector element to allow the attachment of the wire cable ends to the anchoring posts and for extending the cable (the square ring is attached directly to the post).

6 Wire rope
The heavy-duty stainless steel cable connects the posts and creates the flexible line anchoring system. The carabiner of the personal safety device lanyard is connected to this cable.

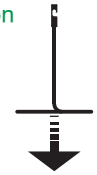
7 Cable thimble
Helps form the loop on the end of the stainless steel cable.

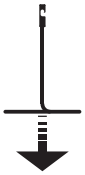
8 Nut clamp
Designed to fix the ends of the cables and secure the loops.

9 Turn buckle
Attaches to the cable by the end post(s) of the Line-System to allow the proper tensioning of the cable.

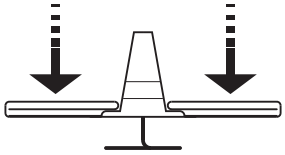
■ Installation

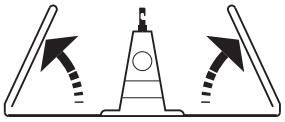
□ 1.
After installing the filter or protection geotextile layer, position the system on top in the exact position set out in the producer's plan.



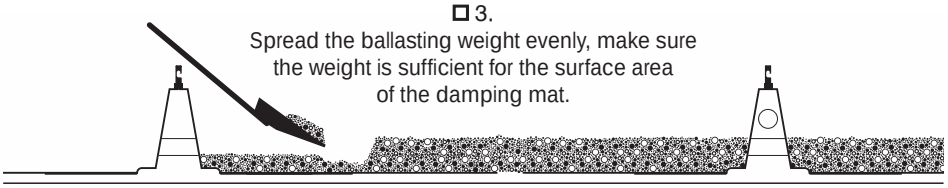


□ 2.
Unfold the damping mat without creases (standard unfolded size: 3×3m).

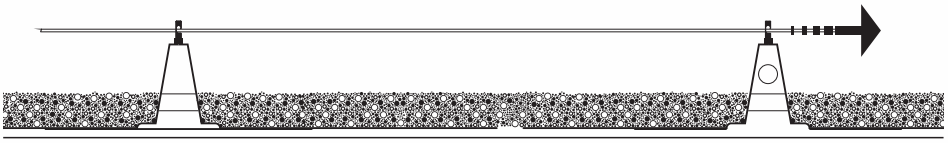




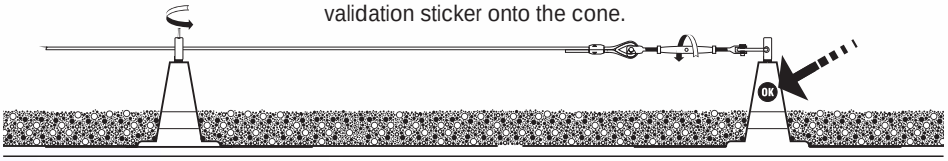
□ 3.
Spread the ballasting weight evenly, make sure the weight is sufficient for the surface area of the damping mat.

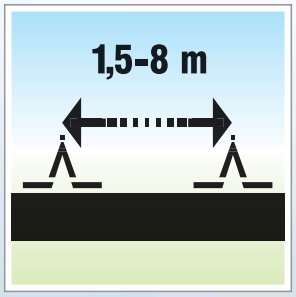


□ 4.
Fix the anchoring cable to each post in turn.



□ 5.
Finally, the certified installer completes and attaches the control label (inspection tag) as well as the circular validation sticker onto the cone.





□ 6.
Register the system at diasafe.diadem.com by using the serial number."

□ Flexible planning
Depending on the size, shape and height of the roof, the posts can be positioned from 1,5m to 8m apart according to the plan.

DIADEM®

Safety on the roof

Testimonial

■ Dipl-Ing Dietmar Rieger
Bausachverständiger · Institut ISAQ · Germany

I am pleased that this producer brought out its new product range just one month after the new EN 795:2012 standard was introduced. The products have been rigorously tested to higher standards than the requirements. The international certification by TÜV was achieved and therefore the product is compliant with all required safety standards and satisfies contractors' needs.

Safety on the roof

Frequently Asked Questions

• Is it necessary to fix the system to the roof structure?
The DiaSafe® system requires no mechanical mounting to the roof as the system stability is guaranteed by counterweight ballasting. As such, the roof installation is not damaged and for the same reason no thermal bridge is created.

• Is it necessary to have an operating licence to use the system?
Yes. The installation must be completed by certified DiaSafe® installers, and only they are authorised to issue the operating licence. It is essential to ensure quality service and long-term safety for the users.

• What kind of material can be used as ballast layer?
The ballast layer can include: growing media, gravel, pebble, concrete slabs and paving stones. If you wish to use other material, please check with the producer.

• Can the system be used again after a fall incident?
The damaged components will need to be replaced and the system revalidated by a certified DiaSafe® inspector before it can be used again, however the roof structure and water insulation will remain undamaged.

Technical Data	Dim.	DiaSafe® Single-System		DiaSafe® Line-System
Product type		Solo	Duo	Multi
Product number		130097	130097	130098
Size (W×LxH)	[cm]	300 × 300 (±5%) x 30 (±1%)		
Amoeba damping plate		fibreglass-reinforced plastic with laminated ballasting mat (frost proof)		
Distance between posts	[m]	•	•	1.5 – 8
Minimum ballast*	[kg/m²]	min. 80	min. 200	80
Stainless steel cable	[mm]	•	•	Ø 8 (7×9)
Number of users	Person	1	2	unlimited (one section remains unused between each user)
Frequency of inspection		12 monthly		
Durability		Weatherproof (UV-resistant, usable in frost and heat)		

* If additional mat is used: from 30 kg/m²

All technical data are average values, they are based on measurements of various test institutes and measurement laboratories. We reserve the right to make technical changes.

SPECIFICATIONS

DIADEM® DiaSafe® - Single – System „Solo” / „Duo”

CE-marked ballasted safety system against fall, for one (“Solo”) or for two (“Duo”) persons, standard EN795:2012 (valid since 31.01.2013) for “Solo”, and CEN/TS 16415:2012 for “Duo”, class A certified, as fall arrest or fall restraint system, installed without penetrating the water membrane, with “Amoeba”-shaped damping plate, with integrated DS-Single energy-absorbent anchor post of stainless steel that is resistant to acid rain in industrial regions and salt air in coastal regions, with a fibreglass laminated cone and laminated ballasting mat, in signal-green colour, with height-marking lines for assisting measurement of ballast material in dry conditions at 80 kg/m² for “Solo” (with additional FGT-180 ballasting mat from 30 kg/m²) or 200 kg/m² for “Duo” distributed evenly over the whole ballasting mat surface, supplied as fully-functional system ready for immediate professional installation according to the approved implementation plan and laid out using guidelines provided by the manufacturer.

Additional information

☐ Highest tensile strength on the water membrane layer σ = 0,00155 N/mm² according expert’s report
☐ Certified for use by one (Solo) or by two people simultaneously (Duo).
☐ Ballasting area: 3 m × 3 m per DiaSafe® - Single System „Solo” / „Duo” (standard build-up) or up to 5 m × 8 m with additional FGT-180 ballasting mat for light build-ups.
☐ Installation must be on roof build-ups approved by the manufacturer, according to installation plan and after approval of the architect / building manager.
☐ System handover to the owner must include control label, installation plan and technical manual.
☐ Regular technical inspection is due every 12 month according to EN795:2012
☐ Use with appropriate personal protection equipment – for example DIADEM® PSA

Further information

Product: DIADEM® DiaSafe® - Single System „Solo” / „Duo”
Manufacturer’s Certificate of Origin (MCO): APP Dachgarten GmbH / APP Kft.
Website: www.diadem.com

SPECIFICATIONS

DIADEM® DiaSafe® - Line – System „Multi”

CE-marked ballasted safety system against fall, standard EN795:2012 (valid since 31.01.2013), class A and C certified, as fall arrest or fall restraint system, installed without penetrating the water membrane, with stainless steel cable (8mm) parallel with the parapet wall, incl. all accessories made of stainless steel, resistant to acid rain in industrial regions and salt air in coastal regions and with “Amoeba”-shaped damping plate, with a fibreglass laminated cone and laminated ballasting mat, in signal-green colour, with height-marking lines for assisting measurement of ballast material in dry conditions at 80 kg/m² (with additional FGT-180 ballasting mat from 30 kg/m²) distributed evenly over the whole ballasting mat surface, supplied as fully-functional system ready for immediate professional installation according to the approved implementation plan and laid out using guidelines provided by the manufacturer.

Additional information

☐ Highest tensile strength on the water membrane layer σ = 0,00155 N/mm² according expert’s report
☐ Certified for multi-person use – one person attached to every second span, maximum span length 8 m.
☐ Ballasting area: 3 m × 3 m per DS-Line anchoring post (standard built-up) or for light build-ups up to 5 m × 8 m with additional FGT-180 ballasting mat
☐ Installation must be on roof build-ups approved by the manufacturer, according to installation plan and after approval of the architect / building manager.
☐ System handover to the owner must include control label, installation plan and technical manual.
☐ Regular technical inspection is due every 12 month according to EN795:2012
☐ Use with appropriate personal protection equipment – for example DIADEM® PSA

Further information

Number of DiaSafe® Line anchor posts and „Amoeba“ shaped damping plates: ..... pcs
Length of the FGL-50 stainless steel wire: ..... m
Product: DIADEM® DiaSafe® - Line – System „Multi“
Manufacturer’s Certificate of Origin (MCO): APP Dachgarten GmbH / APP Kft.
Website: www.diadem.com

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